10-1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

DATE: June 6, 1986

MEMORANDUM

SUBJECT: Vulcan Chemical Co, Wichita, Kansas

FROM: Charles P. Hensley CPH
Chief, EP&R/ENSV

TO: Robert L. Morby
Chief, SPFD/WSTM

Site: Vulcan Material
ID # KSD007482029
Break: 1.2
Other: EPA
6-6-86

Attached for your review is:

_ Data Transmittal

X Work Plan

_ Trip Report

_ Preliminary Assessment

_ HRS Form with Supporting Documentation

_ Final Report of Site Investigation

_

If you have any questions or comments, please contact Paul Doherty at 236-3888.

Attachments

cc: X E&E

X LABO

X EP&R, Gary Kepko

_ TOPE

X RCRA, Karen Flournoy

_ SPFD

X EMCM, Dale Bates

X R&AD, Bill Rice

30299016
Superfund

RECEIVED
JUN 17 1986
E&E K.C.K.

John C. Wicklund
Director, ENSV

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

June 4, 1986

MEMORANDUM

SUBJECT: Work Plan for Vulcan Materials Company, Wichita, Kansas

FROM: Gary Kepko GK
SINV/EP&R/ENSV

TO: Charles P. Hensley
Chief, EP&R/ENSV

I. INTRODUCTION

A. Location

The Vulcan Materials Company is located approximately 10 miles from central Wichita, Kansas, with a legal location of SW/4, Sec 27, T 28S, R 1W, Bayneville Quandrangle. The plant is situated in a rural setting about 1.3 miles from Cowskin Creek.

B. Facility Description

In 1950, the Frontier Chemical Company built a 40-ton per day caustic-chlorine plant in the Wichita area. Production was expanded to 60 tons per day in 1953. The plant has since been expanded to a capacity in excess of 500 tons per day. Also in 1953, a benzene hexachloride (BHC) plant was acquired in Wichita. This plant has been closed down. In 1954, Frontier merged with an aggregate company and became a division of Union Chemical and Materials Corporation. Construction began in 1955 on a chloromethanes plant which was used to produce methylene chloride and carbon tetrachloride. In 1957, the division was sold to Vulcan Materials Company and, also in the same year, a new plant was constructed for the production of pentachlorophenol. A perchloroethylene plant was brought on stream in 1958.

Presently, this facility manufactures chlorine, alkali products, chlorosolvents and pentachlorophenol. The raw materials used are salt water, methane and ethane. The chlorine is separated from the brine in a chloralkali diaphragm-type electrolyte cell. Sodium hydroxide is also produced in the electrolytic cells. Halogenated hydrocarbons are produced by direct chlorination of methane.

Process wastes are basically of two types, process wastes and process sludges. The process waters are collected and disposeded of by deep well injection. Process sludges are drummed, manifested and shipped to the

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

June 4, 1986

MEMORANDUM

SUBJECT: Work Plan for Vulcan Materials Company, Wichita, Kansas

FROM: Gary Kepko
SINV/EP&R/ENSV

TO: Charles P. Hensley
Chief, EP&R/ENSV

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A. Location

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Process wastes are basically of two types, process wastes and process sludges. The process waters are collected and disposeded of by deep well injection. Process sludges are drummed, manifested and shipped to the

NIES site near Furley, Kansas. Some sludges are incinerated in the hexane incinerator. At one time, a portion of process waste was sent to Chemical Waste Management in Emelle, Alabama.

C. Present Waste Handling Practice

The company handles process wastes on site in the following manner:

1. Underground Injection Control - Injection of liquid process waste, primarily brine, to the Arbuckle Formation is used for disposal of approximately 1.5 million gallons per day.

2. Hex Incinerator - Waste from the perchloroethylene plant goes to a John Zinc Company waste heat boiler with two second-dwell at 1800°F.

3. Surface Impoundments - Alpha cake (alpha-isomer HCB) and hex (Hexachlorinated) wastes were stored on site with a clay cover capping them. Plant wastewater and runoff are held in two holding lagoons with zero discharge.

The compounds used during manufacture are as follows: carbon tetrachloride, chlorine, chloroform, ethylene dichloride, hydrogen chloride (anhydrous), hydrogen chloride (aqueous), methylene chloride, phenol, tetrachloroethylene, 1,1,1-trichloroethane and trichloroethylene. Some of the wastes generated include levels of PCBs at approximately 300 parts per million (ppm).

II. BACKGROUND

A. Past Investigations

1. KDHE Investigations

In 1976, KDHE conducted an extensive investigation of this plant as a result of an NPDES violation. Residents of adjacent farmland complained of damage to their property caused by contaminated runoff from breached lagoons. Air pollution was also documented. A $10,000 fine was levied against the company for a reported fish kill. In August 1976, KDHE issued an order to the company for cleanup of the site. In 1982, KDHE sampled private wells within a one- to two-mile radius of the plant to determine water quality. KDHE notified property owners of contaminated wells and provided either an alternate water supply or carbon filters. KDHE worked very closely with the company to mitigate the problems. In September 1985, KDHE collected a number of air samples from around the Vulcan facility.

2. EPA Investigations

In May 1979, EPA conducted an on-site inspection of the Vulcan Materials Company, Wichita facility. No samples were collected. The EPA inspection showed Vulcan to be in full compliance with the KDHE order.

III. PROPOSED STUDY PLAN

A. Objective

The objectives of the proposed sampling plan are as follows:

1. Verify the presence or absence of dioxins and/or furans.

2. Develop a usable HRS score.

B. Sampling Plan

For an effective HRS score, the sampling strategy should be designed to show releases to the environment. There are six principles which should be considered when planning site investigation sampling activities. They are:

1. Target samples to determine maximum population exposed or proximity to a sensitive environment.

2. Collect sufficient background samples to preclude contributions from other sources.

3. Minimize on-site sampling.

4. Set priorities for on-site samples.

5. Demonstrate that a release has occurred.

6. Sample for air releases.

KDHE has collected air samples in the past and these will not be repeated in this sampling exercise.

The following table provides information on specific compounds of interest. The analytical requests will be based on the physical properties listed in the table.

COMPOUND	SOLUBILITY IN WATER	SPECIFIC GRAVITY	SAMPLE MATRIX SOIL/SEDIMENT	SURFACE WATER	DEEP WATER
carbon tetrachloride	no	1.5	X		
chlorine	yes			X	
chloroform	slightly	1.485	X		X
dioxins	no		X		
ethylene dichloride	slightly	1.2554	X		X
furans	no		X		
hexachlorobenzene	no	2.04	X		
hexane	no	0.659		X	
hydrogen chloride	yes	1.268			X
methylene chloride	slightly	1.335	X		X
PCBs	no	1.4-1.5	X		
pentachlorophenol	slightly	1.978	X		X
phenol	yes	1.07			X
petrachloroethylene	no	1.625	X		
1,1,1-trichloroethane	no	1.325	X		
trichloroethylene	slightly	1.456-1.462	X		X

The following will describe the types of samples, areas of interest and analysis requested:

1. Soil

a. Pasture area just north of the northwest quarter of the plant - 1000' x 1000' area on 330' grid - 16 samples collected at a depth of 0-6". This area is downwind of the hex incinerator.

b. Perimeter of plant - 2500' x 2500' divided into 500' lengths with 10 equally-spaced aliquots per length. The area of interest will be 50' from the outside of the perimeter of the plant - 20 samples will be collected from a depth of 0-6".

All soil samples will be analyzed for the following:

carbon tetrachloride
chloroform
dioxins
1,1-ethylene dichloride
furans
hexachlorobenzene
methylene chloride
PCBs
pentachlorophenol
tetrachloroethylene
1,1,1-trichloroethane
trichloroethylene

2. Sediment

Three sediment samples will be collected from the following areas at depths of 0-3" at locations shown on the attached map:

a. Storm water ditch along the north edge of the plant.

b. Storm water ditch along the Missouri Pacific Railroad tracks.

c. Storm water ditch along the south edge of the plant.

d. Storm water ditch along the east side of the old lagoon in the southeast corner of the site.

e. Beside the storm water ditch along the road south of the plant leading to the tributary to Cowskin Creek.

f. Along the tributary to Cowskin Creek.

g. Along Cowskin Creek downstream of the tributary.

In addition, one sample will be collected from Cowskin Creek upstream from the tributary but downstream of the diversion canal.

All sediment samples will be analyzed for the following:

carbon tetrachloride
chloroform
dioxins
1,1-ethylene dichloride
furans
hexachlorobenzene
methylene chloride
PCBs
pentachlorophenol
tetrachloroethylene
1,1,1-trichloroethane
trichloroethylene

3. Surface Water

One water sample will be collected from the surface at each of the locations described in Section 2, a-g. These samples will be analyzed for hexane.

4. Water

One water sample will be collected from near the bottom at each of the locations described in Section 2, a-g. These samples will be analyzed for the following:

chloroform
1,1-ethylene dichloride
HCl
methylene chloride
pentachlorophenol
phenol
trichloroethylene

This sampling exercise is planned to be carried out during mid-July 1986, in conjunction with a RCRA inspection.

SAMPLE SUMMARY

Matrix	# of Samples	Estimated Concentration	Analysis Required
Soil	36	low	carbon tetrachloride, chloroform, dioxins, ethylene dichloride, furans, hexachlorobenzene, methylene chloride, PCBs, pentachlorophenol tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene
Sediment	22	low	same as soil
Water (surface)	8	low	hexane
Water (bottom)	8	low	chloroform, ethylene dichloride, HCl, methylene chloride, pentachlorophenol, phenol, trichloroethylene
Duplicated soil	3	low	same as soil
Duplicated water (surface)	1	low	hexane
Blank	4	low	
Total Samples	83		

SAMPLE ANALYSES REQUEST

ACTIVITY DESCRIPTION: Vulcan Materials Co. ACTIVITY NUMBER: BMJM6

REQUESTER: Gary Kepke ORGANIZATION: EPA

SAMPLING DATE(S): July 14-16 1986 DATE SUBMITTED: July 16, 1986

ANALYSES REQUIRED	MATRIX	CONCENTRATION (LOW/MEDIUM/HIGH)	NO. OF SAMPLES
Volatile Organics	Soil / Sediment	Low	61
Volatile Organics	Water	Low	9
BNA	Soil / Sediment	Low	61
BNA	Water	Low	9
Pesticides	Soil / Sediment	Low	61
Dioxins + Furans	Soil / Sediment	Low	61
Hexane	Water	Low	9

COMMENTS: This activity will be conducted in conjunction with a RCRA inspection

EPA PROJECT OFFICER'S SIGNATURE: _____

TO BE COMPLETED BY THE REGIONAL LABORATORY:

LAB ASSIGNMENT

Hexane REGION VII ✓ CLP _____ ESAT

PSDD/ESBE WESTON/TAT _____ OTHER _____

LAB BRANCH APPROVAL: Robert D Kleyfa DATE: 6-12-86

LAB CONTACT: _____

THIS FORM TO BE COMPLETED 30 DAYS BEFORE ANALYSES ARE NEEDED.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

10

DATE: June 27, 1986

MEMORANDUM

SUBJECT: Vulcan Chemical Co., Wichita, Kansas

FROM: Charles P. Hensley CPH
Chief, EP&R/ENSV

TO: Robert L. Morby
Chief, SPFD/WSTM

Attached for your review is:

- _ Data Transmittal
- X Work Plan (revised)
- _ Trip Report
- _ Preliminary Assessment
- _ HRS Form with Supporting Documentation
- _ Final Report of Site Investigation
- _

If you have any questions or comments, please contact Paul Doherty at 236-3888.

Attachments

cc: ✓
- X E&E
- X LABO
- _ EP&R
- _ TOPE
- X RCRA
- _ SPFD
- _ EMCM
- _

John C. Wicklund
Director, ENSV

RECEIVED
JUL 01 1986
E&E K.C.K.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

June 26, 1986

MEMORANDUM

SUBJECT: Work Plan for Vulcan Chemical Company

FROM: Gary E. Kepko
SINV/EP&R/ENSV

TO: Paul Doherty
Chief, SINV/EP&R/ENSV

Based on comments from RCRA, Superfund and the Lab Branches, I am modifying some sections of the work plan.

The major change concerns the dioxin and furan scan. Comments from the Lab Branch indicate each sample analysis would cost $1,800, for a total cost of about $110,000. I forwarded the lab's concern to the Superfund Branch with a request for substituting 2,3,7,8-TCDD for the dioxin and furan scans. I indicated I would collect two or three splits to hold for scans if any of the 2,3,7,8-TCDD analysis proved positive.

Attachment

WORK PLAN
VULCAN MATERIALS COMPANY, WICHITA, KANSAS

I. INTRODUCTION

A. Location

The Vulcan Materials Company is located approximately 10 miles from central Wichita, Kansas, with a legal location of SW/4, Sec 27, T 28S, R 1W, Bayneville Quandrangle. The plant is situated in a rural setting about 1.3 miles from Cowskin Creek.

B. Facility Description

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Process wastes are basically of two types, process wastes and process sludges. The process waters are collected and disposeded of by deep well injection. Some sludges are incinerated in the hexane incinerator. At one time, a portion of process waste was sent to Chemical Waste Management in Emelle, Alabama.

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3. Surface Impoundments - Alpha cake (alpha-isomer HCB) and hex (Hexachlorinated) wastes were stored on site with a clay cover capping them. Plant sanitary wastewater and runoff from nonprocess areas are held in two holding lagoons with zero discharge.

The compounds used during manufacture are as follows: carbon tetrachloride, chlorine, chloroform, ethylene dichloride, hydrogen chloride (anhydrous), hydrogen chloride (aqueous), methylene chloride, phenol, tetrachloroethylene, 1,1,1-trichloroethane and trichloroethylene. Some of the wastes generated include levels of PCBs at approximately 300 parts per million (ppm).

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chlorine	yes			X	
chloroform	slightly	1.485	X		X
dioxins	no		X		
ethylene dichloride	slightly	1.2554	X		X
furans	no		X		
hexachlorobenzene	no	2.04	X		
hexane	no	0.659		X	
hydrogen chloride	yes	1.268			X
methylene chloride	slightly	1.335	X		X
PCBs	no	1.4-1.5	X		
pentachlorophenol	slightly	1.978	X		X
phenol	yes	1.07			X
petrachloroethylene	no	1.625	X		
1,1,1-trichloroethane	no	1.325	X		
trichloroethylene	slightly	1.456-1.462	X		X

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All soil samples will be analyzed for the following:

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hexachlorobenzene
methylene chloride
PCBs
pentachlorophenol
tetrachloroethylene
1,1,1-trichloroethane
trichloroethylene

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Three sediment samples will be collected from the following areas at depths of 0-3" at locations shown on the attached map:

a. Storm water ditch along the north edge of the plant.

b. Storm water ditch along the Missouri Pacific Railroad tracks.

c. Storm water ditch along the south edge of the plant.

d. Storm water ditch along the east side of the old lagoon in the southeast corner of the site.

e. Beside the storm water ditch along the road south of the plant leading to the tributary to Cowskin Creek.

f. Along the tributary to Cowskin Creek.

g. Along Cowskin Creek downstream of the tributary.

In addition, one sample will be collected from Cowskin Creek upstream from the tributary but downstream of the diversion canal.

All sediment samples will be analyzed for the following:

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trichloroethylene

3. Surface Water

One water sample will be collected from the surface at each of the locations described in Section 2, a-g. These samples will be analyzed for hexane.

4. Water

One water sample will be collected from near the bottom at each of the locations described in Section 2, a-g. These samples will be analyzed for the following:

chloroform
1,1-ethylene dichloride
HCl
methylene chloride
pentachlorophenol
phenol
trichloroethylene

This sampling exercise is planned to be carried out during mid-July, 1986, in conjunction with a RCRA inspection. In addition, two or three soil samples will be composited and held for dioxin/furan scan if samples anaylzed for 2,3,7,8-TCDD are positive.

SAMPLE SUMMARY

Matrix	# of Samples	Estimated Concentration	Analysis Required
Soil	36	low	carbon tetrachloride, chloroform, dioxins, ethylene dichloride, hexachlorobenzene, methylene chloride, PCBs, pentachlorophenol tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, 2,3,7,8-TCDD
Sediment	22	low	same as soil
Water (surface)	8	low	hexane
Water (bottom)	8	low	chloroform, ethylene dichloride, HCl, methylene chloride, pentachlorophenol, phenol, trichloroethylene
Duplicated soil	3	low	same as soil
Duplicated water (surface)	1	low	hexane
Blank	4	low	
Total Samples	83		

SAMPLE ANALYSES REQUEST

ACTIVITY DESCRIPTION: Vulcan Materials Co. ACTIVITY NUMBER: BMJM6

REQUESTER: Gary Kepke ORGANIZATION: EPA

SAMPLING DATE(S): July 14-16 1986 DATE SUBMITTED: July 15, 1986

ANALYSES REQUIRED	MATRIX	CONCENTRATION (LOW/MEDIUM/HIGH)	NO. OF SAMPLES
Volatile Organics	Soil / Sediment	Low	61
Volatile Organics	Water	Low	9
BNA	Soil / Sediment	Low	61
BNA	Water	Low	9
Pesticides	Soil / Sediment	Low	61
2,3,7,8-TCDD ~~Dioxins - Furans~~	Soil / Sediment	Low	61
Hexane	Water	Low	9

COMMENTS: This activity will be conducted in conjunction with a RCRA inspection

EPA PROJECT OFFICER'S SIGNATURE: _____

TO BE COMPLETED BY THE REGIONAL LABORATORY:

LAB ASSIGNMENT

Havens REGION VII ✓ CLP _____ ESAT

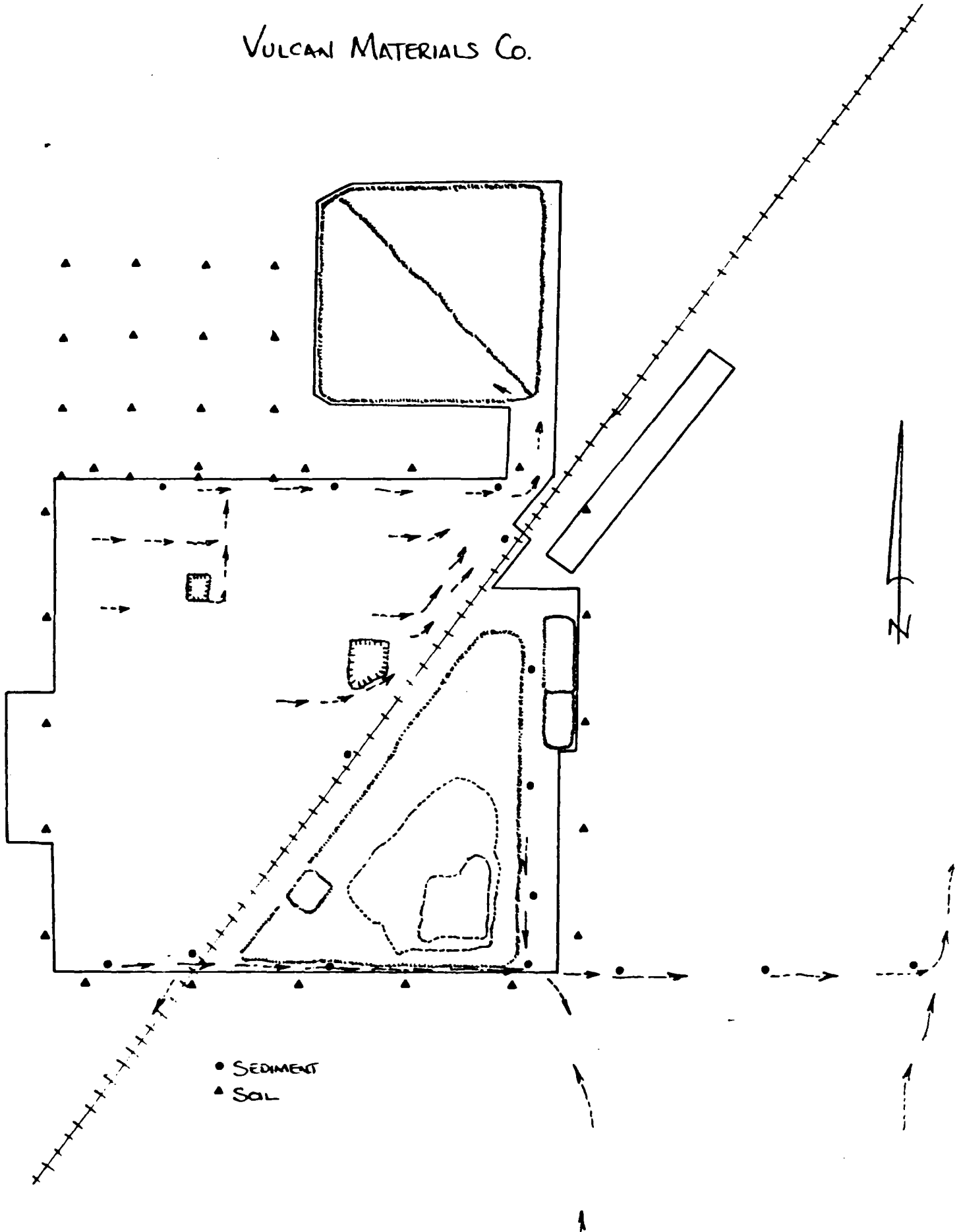
PSDD/ESRE WESTON/TAT _____ OTHER _____

LAB BRANCH APPROVAL: Robert D Kleyle DATE: 6-12-86

LAB CONTACT: _____

THIS FORM TO BE COMPLETED 30 DAYS BEFORE ANALYSES ARE NEEDED.

VULCAN MATERIALS CO.



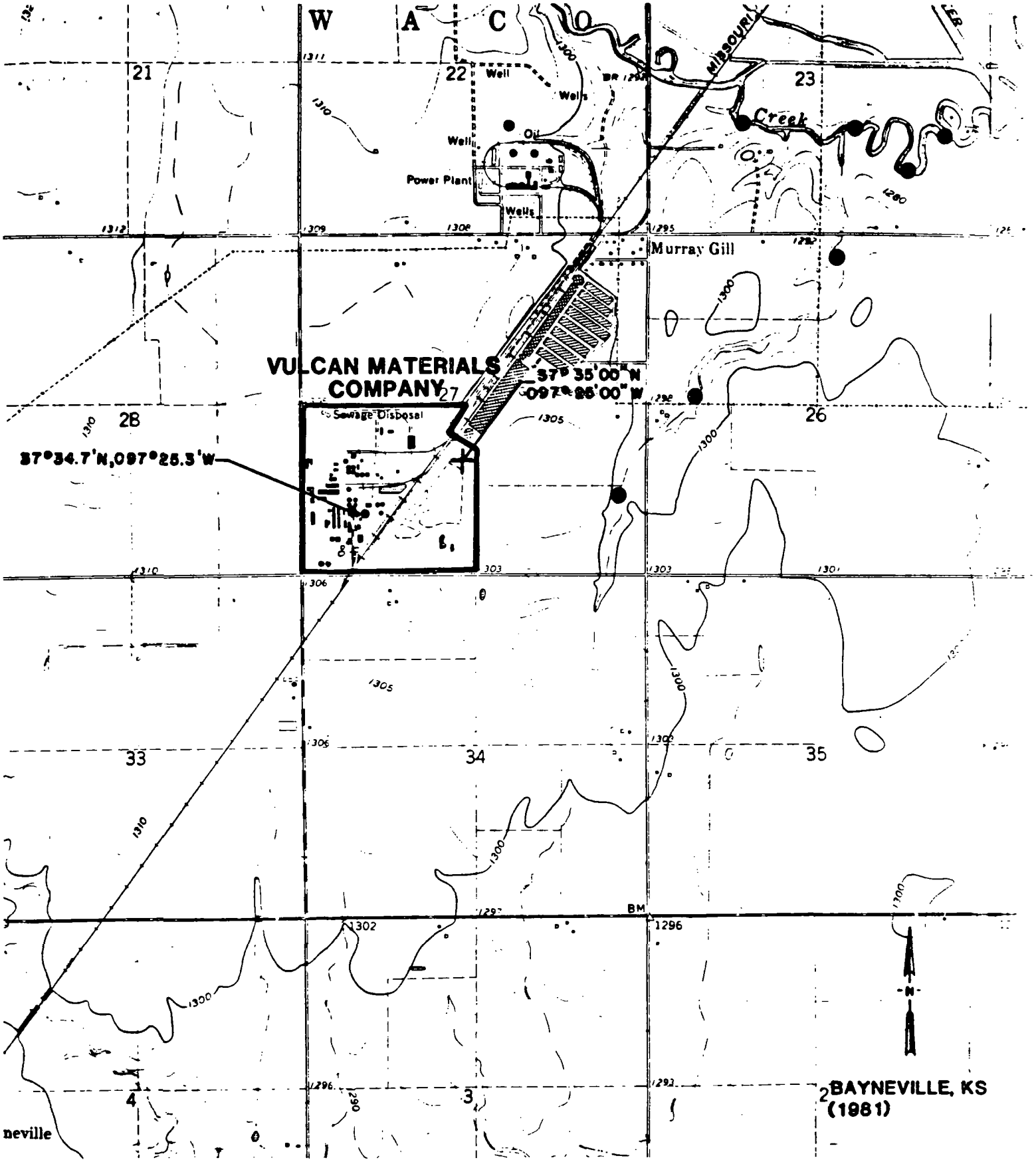


Figure 2. Site location, Sedgwick County, Kansas. Scale 1:24,000.

● SEDIMENT

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GARY E.	VULCAN MATERIALS CO.	15 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE (803)	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6001		5			1		X				2-803 JARS DELIVERED TO VULCAN
-005		5			1		X				"
-009		5			1		X				"
-013		5			1		X				"
-017		5			1		X				"
-022		5			1		X				"
-023		3			1		X				———
-024		5			1		X				2-803 JARS DELIVERED TO VULCAN

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Jim Alldritt ☐ SEALED ☐ UNSEALED X	~~7/15/86~~ 7/15/86	1200hrs	William Oberle ☐ SEALED ☐ UNSEALED X	PACKAGE FOR SHIPMENT
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
William Oberle ☐ SEALED ☐ UNSEALED X	7/18/86	0830 hrs	Kenna Marie Roberson ☐ SEALED ☐ UNSEALED X	TRANSPORT TO EPA LAB
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Kenna Marie Roberson ☐ SEALED ☐ UNSEALED X	7/18/86	10 AM	Woods ☐ SEALED ☐ UNSEALED	Analysis

7-EPA-9262(Revised 5/85)

KMR

Blank

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPLO, GARY E	VULCAN MATERIALS CO.	16 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6031		5			1		x				2-8oz DELIVERED TO VULCAN
-032		5			1		x				"
-035		5			1		x				"
-045			2		4	x					SPLITS TO VULCAN

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Bruce A. Johnson ☐ SEALED ☐ UNSEALED	7/16/86	1200h	Wm. Oberle ☐ SEALED ☐ UNSEALED	Prepare for Shipping
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
William Oberle ☐ SEALED ☐ UNSEALED	7/18/86	0830 hrs	Kenna Marie Roberson ☐ SEALED ☐ UNSEALED	Transport to EPA Lab
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Kenna Marie Roberson ☐ SEALED ☐ UNSEALED	7/18/86	10 AM	J. Woods ☐ SEALED ☐ UNSEALED	Analysis

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GARY G	VULCAN MATERIALS CO.	16 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	1 QT BOTTLE	80 ml BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6033		5			1		X				2.8oz DELIVERED TO VULCAN
-037		5			1		X				"
-041		5			1		X				"
-043		5			1		X				"
-044		5			1		X				"
-046			2		4	X					SPLITS DELIVERED TO VULCAN
-042		3			1						(Duplicate)

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☒	7/16/86	1200 hrs	SEALED ☐ UNSEALED ☒	PACKAGE FOR SHIPPING
RELINQUISHED BY: William Oberle	DATE: 7/16/86	TIME: 0830 hrs	RECEIVED BY: Kenna Marie Robertson	REASON FOR CHANGE OF CUSTODY: TRANSPORT TO LAB
SEALED ☐ UNSEALED ☒			SEALED ☐ UNSEALED ☒	
RELINQUISHED BY: Kenna Marie Robertson	DATE: 7/16/86	TIME: 10 AM	RECEIVED BY: J Woods	REASON FOR CHANGE OF CUSTODY: Analysis
SEALED ☒ UNSEALED ☐			SEALED ☐ UNSEALED ☐	

7-EPA-9262(Revised 5/85)

Jim

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GAIL E	VULCAN MATERIALS CO.	16 / 5 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	8 oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6030		5			1		X				2 - 8oz DELIVERED TO Vulcan
-034		5			1		X				

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
John A Wolff — ☐ SEALED ☐ UNSEALED ☑	7/16/86	1200hrs	Wm. Oberle — ☐ SEALED ☐ UNSEALED ☑	PACKAGE FOR SHIPPING
RELINQUISHED BY: William Oberle — ☐ SEALED ☐ UNSEALED ☒	DATE: 7/18/86	TIME: 0830 hrs	RECEIVED BY: Kenna Marie Roberson — ☐ SEALED ☐ UNSEALED ☒	REASON FOR CHANGE OF CUSTODY: Transport to EPA Labs
RELINQUISHED BY: Kenna Marie Roberson — ☒ SEALED ☐ UNSEALED	DATE: 7/18/86	TIME: 10 AM	RECEIVED BY: Woods — ☒ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY: Analysis

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GARY E	VULCAN MATERIALS CO.	16 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMM6029		5			1		X				2-8g DELIVERED TO VULCAN
-036		5			1		X				"

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED ☐ UNSEALED ☒	7/16/86	1200hrs	[signature] SEALED ☐ UNSEALED ☐	PACKAGE FOR SHIPPING
RELINQUISHED BY: William Oberle SEALED ☐ UNSEALED ☒	DATE: 7/18/86	TIME: 0830 hrs	RECEIVED BY: Kenna Marie Roberson SEALED ☐ UNSEALED ☒	REASON FOR CHANGE OF CUSTODY: Transport to EPA Lab
RELINQUISHED BY: Kenna Marie Roberson ☒ SEALED ☐ UNSEALED	DATE: 7/18/86	TIME: 10 AM	RECEIVED BY: [signature] SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY: Analysis

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, Gary E.	VULCAN MATERIALS CO.	15 / 01 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	8 oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6004		5			1		X				2-8oz JARS TO VULCAN
-006		5			1		X				"
-011		5			1		X				"
-015		5			1		X				"
-018		5			1		X				"
-019		5			1		X				"
-025		5			1		X				"

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Bruce A. Minnis ☐ SEALED ☐ UNSEALED	7/15/86	1200 hrs.	William Oberle ☐ SEALED ☒ UNSEALED	PACKAGE FOR SHIPMENT
RELINQUISHED BY	**DATE**	**TIME**	**RECEIVED BY**	**REASON FOR CHANGE OF CUSTODY**
Wm Oberle ☐ SEALED ☒ UNSEALED	7/18/86	0830 hrs	Kenna Marie Roberson ☐ SEALED ☐ UNSEALED	Transport to EPA Lab
RELINQUISHED BY	**DATE**	**TIME**	**RECEIVED BY**	**REASON FOR CHANGE OF CUSTODY**
Kenna Marie Roberson ☒ SEALED ☐ UNSEALED	7/18/86	10 AM	Woods ☐ SEALED ☐ UNSEALED	Analysis

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GARY E.	VULCAN CHEMICAL CO.	15 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM60003		5			1		X				2-Day JARS TO VULCAN
-007		5			1		X				
-012		5			1		X				
-016		5			1		X				
-021		5			1		X				
-026		5			1		X				
-028		5			1		X				

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☒	7/15/86	1200 hrs.	SEALED ☐ UNSEALED ☒	PACKAGE FOR SHIPMENT
RELINQUISHED BY: Wm. M. Obenchain	DATE: 7/18/86	TIME: 0830 hrs	RECEIVED BY: Anna Marie Roberson	REASON FOR CHANGE OF CUSTODY: Transport to Lab
SEALED ☐ UNSEALED ☒			SEALED ☐ UNSEALED ☒	
RELINQUISHED BY: Anna Marie Roberson	DATE: 7/18/86	TIME: 10 AM	RECEIVED BY: J. Woods	REASON FOR CHANGE OF CUSTODY: Analysis
SEALED ☐ UNSEALED ☐			SEALED ☒ UNSEALED ☐	

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CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
KEPKO, GARY E.	VULCAN CHEMICALS	15 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	8-oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6002		5			1		X				2-8oz JARS DELIVERED TO VULCAN
-006		5			1		X				"
-010		5			1		X				"
-014		5			1		X				"
-020		5			1		X				"
-027		5			1		X				"

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Michael Michalowski ☐ SEALED ☐ UNSEALED ☑	7/15/86	1200	William Oberle ☐ SEALED ☐ UNSEALED ☑	PACKAGE FOR SHIPMENT
RELINQUISHED BY: William M. Oberle ☐ SEALED ☐ UNSEALED ☒	DATE: 7/18/86	TIME: 0830 VES	RECEIVED BY: Kenna Marie Roberson ☐ SEALED ☐ UNSEALED ☒	REASON FOR CHANGE OF CUSTODY: Transport to EPA Lab
RELINQUISHED BY: Kenna Marie Roberson ☒ SEALED ☐ UNSEALED	DATE: 7/18/86	TIME: 10 AM	RECEIVED BY: Woods ☒ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY: Analysis

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Kepko, Gary. E	Vulcan Materials Co.	17 / 07 / 86	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	80 oz BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BMJM6047			2		4						2 Voa sets and 1 80oz jug to Lukas
BMJM6048			2		4						" " "
BMJM6049			1		2						

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

X SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED ☐ UNSEALED ☐	7/17/86	0800	Kenna Marie Roberson SEALED ☐ UNSEALED ☒	Package for shipping
RELINQUISHED BY: Kenna Marie Roberson SEALED ☐ UNSEALED ☐	7/18/86	10 AM	[signature] SEALED ☒ UNSEALED ☐	Analysis
RELINQUISHED BY: [signature] SEALED ☐ UNSEALED ☐	DATE	TIME	RECEIVED BY: SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

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